

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP2004/051744

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 B21C47/12 B21C47/34 B65H54/28

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 B21C B65H

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	PATENT ABSTRACTS OF JAPAN vol. 1998, no. 11, 30 September 1998 (1998-09-30) & JP 10 157927 A (TAKANA DENKI:KK), 16 June 1998 (1998-06-16) abstract; figures 1-6	1,2
X		8-10
A	EP 1 126 935 A (DANIELI & C OHG SPA) 29 August 2001 (2001-08-29) cited in the application column 3, line 15 - line 52; figures	1-5,11, 12
A	US 4 143 834 A (HARA RYOICHI ET AL) 13 March 1979 (1979-03-13) column 2, line 38 - line 51 column 3, line 30 - line 50; figures 5,8	1,4,5,8, 11,12
	-/-	

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

* Special categories of cited documents : *A* document defining the general state of the art which is not considered to be of particular relevance *E* earlier document but published on or after the international filing date *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) *O* document referring to an oral disclosure, use, exhibition or other means *P* document published prior to the International filing date but later than the priority date claimed	*T* later document published after the International filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art *&* document member of the same patent family
Date of the actual completion of the International search	Date of mailing of the International search report
8 December 2004	21/12/2004
Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax (+31-70) 340-3016	Barrow, J

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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A	DE 33 06 579 A (BECKER PRUENTE GMBH) 30 August 1984 (1984-08-30) claim 1; figures 1,2 -----	6
A	PATENT ABSTRACTS OF JAPAN vol. 0176, no. 82 (M-1528), 14 December 1993 (1993-12-14) & JP 5 229733 A (FURUKAWA ELECTRIC CO LTD:THE), 7 September 1993 (1993-09-07) abstract; figures 1,4 -----	1,5,11
A	US 3 507 458 A (WHITE WILLIAM R ET AL) 21 April 1970 (1970-04-21) column 2, line 11 - line 21; figure -----	1,8
A	DE 821 666 C (SIEMENS SCHUCKERTWERKE) 19 November 1951 (1951-11-19) figure 1 -----	1,8

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Information on patent family members

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